

REMARKS

Claims 1, 2, 7, 8, 11, 12, 15 and 16 stand rejected under 35 U.S.C. 102(e) as being unpatentable over Kim. Claims 3-6, 9, 10, 13 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of LaPier.

These rejections are respectfully traversed.

Claims 1-6

It is respectfully submitted that various recitations set forth in independent claim 1, as are about to be discussed, cannot be read on the prior art in the way suggested in the Office action. It is thus submitted that not only claim 1, but also its dependent claims 2-6 are distinguishable from Kim and/or any obvious combination of Kim with LaPier.

“Broadband Residential Gateway”

The Office action equates Kim’s hub 244 with applicants’ recited Broadband Residential Gateway. Applicants respectfully disagree, for at least the following reasons:

1. Kim’s hub is clearly located on the premises of a service provider or cable company whereas “residential gateway” was a well-understood term of art and used within the industry well prior to applicants’ filing date meaning an apparatus that is located on customer premises.

As evidence of this, the present amendment is accompanied by an Information Disclosure Statement citing a dual-report document entitled “The Residential Gateway Report and TIA/EIA Residential Gateway” issued by North America’s Home & Building Automation Association. This document is dated December 1998, one year prior to applicants’ filing date. This dual-report document makes clear that “residential gateway” cannot be used to refer to a device that is on a provider’s premises.

The examiner's attention is respectfully directed in this regard to the figure labeled "The Residential Gateway" (third un-paginated page). The examiner's attention is also directed to the Preface of this report (fifth unpaginated page), indicating that major companies in the industry, including GTE, Hewlett-Packard, IBM and Bellcore "came together in early 1995 to develop the Residential Gateway (RD) concept."

In addition, the second portion of this document, beginning on the page that follows page 44 is a contribution made to a standards committee in 1998. Section 1.2 thereof states that the Residential Gateway is intended to provide

a common intelligent interface between the service access distribution networks and the consumer's in-home networks and devices.

The examiner is also invited to undertake a search on the world-wide-web for the phrase "residential gateway" using, for example, the Google search engine. Such a search conducted by the undersigned attorney yielded a large number of web pages that make clear that residential gateway is a term of art that cannot be said to encompass a hub located on a provider's premises. Applicants do not know when any of these web pages first appeared. Thus many or all of them may have appeared only *after* applicants' filing date and might not be relevant to what the term "residential gateway" meant on the date of applicants' filing. However, the above-cited report, if nothing else, makes clear that that the term was in use within the industry prior to applicants' filing date.

2. It is clear from Kim's disclosure that Kim's hub 244 is the same type of device as Kim's hub 204. Yet the Office action states that Kim's hub 204 corresponds to applicants' recited "edge router." A residential gateway and a router are not the same thing. Therefore, one cannot on the one hand call Kim's hub 244 a residential gateway and yet call Kim's hub 204 an edge router.

“Hybrid Fiber Coaxial Network”

The Office action equates Kim’s cable backbone network with applicants’ recited Hybrid Fiber Coaxial network. Applicants respectfully disagree, for at least the following reasons:

1. The term “hybrid fiber coaxial network” is a term of art in the cable industry referring to a network that uses a combination of fiber optics and traditional coaxial cable to provides data access to the home (or other customer premises). See, for example, the attached Glossary definition of “hybrid fiber coaxial” at the Cisco Systems website and HFC 112 in applicants’ FIG. 1. That is, a hybrid fiber coax network is the medium by which a cable company’s (or other service provider’s) equipment is connected to the subscriber’s equipment. See also U. S. Patent 5,870,475 issued 2/9/1999 to Allan et al cited in the attached Information Disclosure Statement. Thus Kim’s cable backbone network cannot be said to be a hybrid fiber coax network since it does not connect to the subscriber premises. Indeed, that is why it is called a “backbone” network. See, for example, the attached Glossary definition of “backbone” at the Cisco Systems website. Any hybrid fiber coax network present in Kim would correspond to the leads connecting cable modems 206/207 on the customer premises to hub 204 on the cable company’s premises.

2. There is no disclosure in Kim suggesting that the cable backbone network in Kim is comprised of both cable and fiber components.

“Head End Hub Comprising A Cable Modem Bank Coupled To An Edge Router”

The Office action equates Kim’s cable modems 206/207 to applicants’ recited cable modem bank and equates Kim’s hub 204 to applicants’ recited edge router. Applicants respectfully disagree, for at least the following reasons:

1. Applicants believe that cable modems 206 and 207 are not part of any “head end hub,” i.e., equipment at the cable company premises, because it would seem that

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equipment 208, 210 and 212 are on a single customer premises all connected into the customer premises cable modem 206.

2. Even if one takes the position that modems 206/207 are part of the head end hub, it is not a reasonable to read applicants' recited "edge router" as corresponding to Kim's hub 204. "Router" is a well understood term of art meaning a device that determines the optimal path along which network traffic should be forwarded. See, for example, the attached Glossary definition of "router" at the Cisco Systems website. The only function that hub 204 seems to provide is that of being a connection point for the signals coming in from the various cable modems and passing those signals on to headend unit 202. No optimal path determination, i.e., no "routing" is carried out by hub 204. Indeed, the term "hub" is also a well-understood term of art meaning a device that serves as the center of a star-topology network. See, for example, the , the attached Glossary definition of "hub" at the Cisco Systems website.

3. Kim does disclose routers, e.g., routers 216 and 250, that do seem to provide the conventional type of router functionality mentioned above. Thus if anything in Kim can be said to be a "router" it would be the devices in Kim that are actually labeled as routers. Certainly as between router 216, for example, and hub 204, it is only logical to say that Kim's router 216 is a "router." But since router 216 clearly does not carry out the same function as hub 204, they cannot both be said to be routers.

3. Kim's router 216 cannot, on the other hand, be said to correspond to applicants' recited "router" because of other limitations in claim 1, e.g., the fact that the recited edge router is coupled to the cable modem bank.

4. One might take the position that Kim does disclose a head end hub that includes a modem bank because a modem at one end of a transmission path necessarily must communicate with a similar modem at the other end of the transmission path. In this regard it would appear that hub 204 would contain a modem bank, even though such is not explicitly shown or described in Kim. But under this reading, there would be no element in Kim that could be said to correspond to applicants' recited "edge router" to which the modem bank is connected.

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5. Applicants' claim 1 further recite that the edge router is "coupled to ... a High Speed Packet Network." Certainly Internet 254 in Kim is a high speed packet network. However, hub 204 cannot be reasonably said to be coupled to Internet 204 since there are at least two other elements between hub 204 and Internet 254, namely headend unit 202 and 1st router 216, both of which provide various functions that go well beyond anything that might be said to be "coupling."

6. Given that Kim does disclose a router (216)—labeled as being a router—that is in fact, coupled to Internet 254, it is respectfully submitted that it is an unreasonable reading of applicants' claim 1 on Kim to say that it is Kim's hub 204, rather than Kim's router 216, that corresponds to applicants' recited edge router.

"Internet Protocol Central Office"

The Office action equates the combination of Kim's 2nd router 260 and 2nd DIB ("directory information base") 264 to applicants' recited Internet Protocol Central Office. Applicants respectfully disagree. A router that routes packets based on a database lookup is still a router—not an entire "central office" (referred to in the specification as an "IP Central Station").

Claims 7-10

It is respectfully submitted that various recitations set forth in independent claim 7, as are about to be discussed, cannot be read on the prior art in the way suggested in the Office action. It is thus submitted that not only claim 7, but also its dependent claims 8-10 are distinguishable from Kim and/or any obvious combination of Kim with LaPier.

“Internet Protocol Central Station”

The discussion hereinabove relative to the recitation in claim 1 of an Internet Protocol Central Office apply with equal force to the recitation of claim 7 of an Internet Protocol Central Station.

“Internet **AND** High-Speed Packet Network”

Applicants’ illustrative embodiment shows the Internet Protocol Central Station connected to Internet 180 via an IP Network 120. See, for example, FIG. 1. Indeed, each of applicants’ claims reciting a “high speed packet network” is intended to refer to a network such as network 120, as distinguished from the Internet. Since claim 1 recites only the high speed packet network and not the Internet, applicants discussion hereinabove relative to claim 1 did not argue against the examiner’s interpretation of high speech packet network in claim 1 as reading on Internet 254 shown in Kim.

However, as just noted, claim 7 recites both the Internet and a high speed packet network. More particularly, claim 7 recites that the Internet Protocol Central Station is coupled to the Internet via at least one high speed packet network. Internet 254 of Kim cannot be used to anticipate both of these recitations.

“Hybrid Fiber Coaxial Distribution Network”

The comments hereinabove relative to the recitation of a “hybrid fiber coaxial network” apply with even greater equal force to the recitation in claim 7 of a “hybrid fiber coaxial distribution network.” As is well understood in the telephony arts, a hybrid fiber coax distribution network is a network that connects to subscriber end stations. See, for example, U. S. Patent 5,870,475 issued 2/9/1999 to Allan et al noted above and the following illustrative quote from that patent at col. 3, lines 16-26 [emphasis added]:

Referring to FIG. 1, there is illustrated parts of a distribution network in which many end stations ... are connected via branched cables...to a head end.... The cables 14 can comprise ... hybrid fiber-coax arrangement....

“Broadband Residential Gateway of the CPE that interconnects a plurality of Customer Premises Equipment”

As noted above, the Office action equates Kim’s hub 244 with applicants’ recited Broadband Residential Gateway. Reasons as to why applicants respectfully disagree are set forth hereinabove.

Claims 11-14

Independent claim 11 contains many of the same limitations as independent claim 7 and it is therefore submitted that claims 11-14 are allowable for at least the reasons set forth hereinabove relative to claim 7.

Claims 15-16

Independent claim 15 contains many of the same limitations as independent claim 1 and it is therefore submitted that claims 15-16 are allowable for at least the reasons set forth hereinabove relative to claim 1.

In view of the foregoing, it is submitted that each of applicants’ independent claims 1, 7, 11 and 15—and thus all of the claims in the application—distinguish the invention from Kim and are allowable. It is thus not necessary at this time for applicants to address the question of whether it would have been obvious to a person of ordinary skill in the art to combine the teachings of Kim and LaPier et al in the manner

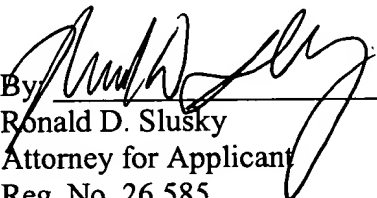
suggested in the Office action or whether any of applicants' claims would read on any such combination.

In addition to the foregoing, there may yet be other ways in which applicants' claims distinguish the present invention from Kim. Applicants reserve the right to point to such other limitations at a future point in time if necessary

Reconsideration is requested.

Respectfully submitted,

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Date: 1/5/2004